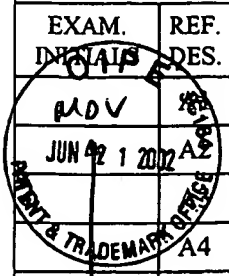


<b>Form PTO-1449</b> (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)			ATTY. DKT. NO. 5119-08401  APPLICANT: Choi et al.  FILING DATE: August 21, 2001		SERIAL NO. 09/934,248  GROUP: 3682		
<b>U.S. PATENT DOCUMENTS</b>							
EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	3,807,027	4/1974	Heisler			
	A2	3,807,029	4/1974	Troeger			
		3,811,665	5/1974	Seelig			
	A4	4,062,600	12/1977	Wyse			
	A5	4,098,001	7/1978	Watson			
	A6	4,155,169	5/1979	Drake et al.			
	A7	4,202,107	5/1980	Watson			
	A8	4,267,212	5/1981	Sakawaki			
	A9	4,337,579	7/1982	De Fazio			
	A10	4,355,469	10/1982	Nevins et al.			
	A11	4,414,750	11/1983	De Fazio			
	A12	4,451,507	5/1984	Beltz et al.			
	A13	4,610,442	9/1986	Oku et al.			
	A14	4,694,703	11/1987	Routson			
	A15	4,731,155	3/1988	Napoli et al.			
	A16	4,763,886	8/1988	Takei			
	A17	4,929,083	5/1990	Brunner			
	A18	4,959,252	11/1990	Bonnebat et al.			
	A19	5,072,126	12/1991	Progler			
	A20	5,110,514	5/1992	Soane			
	A21	5,126,006	6/1992	Cronin et al.			
	A22	5,204,739	4/1993	Domenicali			
	A23	5,240,550	8/1993	Boehnke et al.			
	A24	5,348,616	9/1994	Hartman et al.			
	A25	5,392,123	2/1995	Marcus et al.			
	A26	5,425,964	6/1995	Southwell et al.			
	MDV	A27	5,452,090	9/1995	Progler et al.		

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*M. Vagstad*

DATE CONSIDERED:

*1/10/05*

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Information Disclosure Statement--PTO 1449 (modified)

**Form PTO-1449 (modified)**  
List of Patents and Publications  
For Applicant's Information  
Disclosure Statement  
(Use several sheets if necessary)

ATTY. DKT. NO. 5119-08401

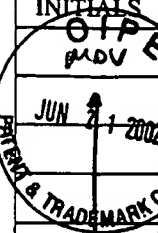
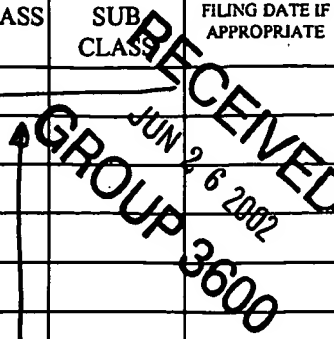
APPLICANT: Choi et al.

FILING DATE: August 21, 2001

SERIAL NO. 09/934,248

GROUP: 3682

**U.S. PATENT DOCUMENTS**

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A28	5,480,047	1/1996	Tanigawa et al.			
	A29	5,512,131	4/1996	Kumar et al.			
	A30	5,515,167	5/1996	Ledger et al.			
	A31	5,545,367	10/1996	Bae et al.			
	A32	5,566,584	10/1996	Briganti et al.			
	A33	5,633,505	5/1997	Chung et al.			
	A34	5,724,145	3/1998	Kondo et al.			
	A35	5,753,014	5/1998	Van Rijn			
	A36	5,760,500	6/1998	Kondo et al.			
	A37	5,772,905	6/1998	Chou			
	A38	5,776,748	7/1998	Singhvi et al.			
	A39	5,779,799	7/1998	Davis			
	A40	5,802,914	9/1998	Fassler et al.			
	A41	5,877,036	3/1999	Kawai			
	A42	5,877,861	3/1999	Ausschnitt et al.			
	A43	5,888,650	3/1999	Calhoun et al.			
	A44	5,900,160	5/1999	Whitesides et al.			
	A45	5,912,049	6/1999	Shirley			
	A46	5,942,871	8/1999	Lee			
	A47	5,948,470	9/1999	Harrison et al.			
	A48	5,952,127	9/1999	Yamanaka			
	A49	6,038,280	3/2000	Rossiger et al.			
	A50	6,039,897	3/2000	Lochhead et al.			
	A51	6,046,056	4/2000	Parce et al.			
	A52	6,051,345	4/2000	Huang			
	A53	6,074,827	6/2000	Nelson et al.			
	A54	6,091,485	7/2000	Li et al.			
	A55	6,128,085	10/2000	Buermann et al.			

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Information Disclosure Statement--PTO 1449 (modified)

**Form PTO-1449** (modified)  
List of Patents and Publications  
For Applicant's Information  
Disclosure Statement  
(Use several sheets if necessary)

ATTY. DKT. NO. 5119-08401

SERIAL NO. 09/934,248

APPLICANT: Choi et al.

GROUP: 3682

FILING DATE: August 21, 2001

**U.S. PATENT DOCUMENTS**

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
MOV	A56	6,143,412	11/2000	Schueller et al.			
MOV	A57	6,168,845	1/2001	Fontana, Jr. et al.			
MOV	A58	6,180,239	1/2001	Whitesides et al.			
MOV	A59	6,204,922	3/2001	Chalmers			
MOV	A60	6,334,960	1/2002	Wilson et al.			

**FOREIGN PATENT DOCUMENTS**

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO
MOV	A61	00/54107	9/2000	WO			
MOV	A62	01/33232	5/2001	WO			
MOV	A63	01/33300	5/2001	WO			
MOV	A64	244884	3/1987	EP			
MOV	A65	733455	9/1996	EP			NO
MOV	A66	2800476	7/1978	DE			NO
MOV	A67	19648844	11/1999	DE			NO
MOV	A68	1-196749	8/1989	JP			NO

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Information Disclosure Statement--PTO 1449 (modified)

<b>Form PTO-1449</b> (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		ATTY. DKT. NO. 5119-08401  APPLICANT: Choi et al.  FILING DATE: August 21, 2001	SERIAL NO. 934,248 GROUP: 3680 JUN 26 2002 <b>RECEIVED</b> <b>GROUP 3600</b>
<b>OTHER ART</b> (Including Author, Title, Date, Pertinent Pages, Etc.)			
MOV	A69	Stewart, D.; "A Platform with Six Degrees of Freedom", Proc. of Inst. Mech. Engrs., 1965, 180, 371-372.	
	A70	Paros, J.M.; Weisbord, L.; "How to Design Flexure Hinges", Machine Design, 1965, 151-156.	
	A71	Raibert, M.H.; Craig, J.J.; "Hybrid Position/Force Control of Manipulators", 1981, 102, 126-133.	
	A72	Hogan, Neville; "Impedance Control: An Approach to Manipulation", Journal of Dynamic Systems, Measurement and Control, 1985, 107, 1-7.	
	A73	Hollis, Ralph; Salcudean, S.E.; Allan, A.P.; "A Six-Degree-of-Freedom Magnetically Levitated Variable Compliance Fine-Motion Wrist: Design, Modeling and Control", IEEE Transactions on Robotics and Automation, 1991, 7, 320-332.	
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	A75	Slocum, Alexander; "Precision Machine Design: Macromachine Design Philosophy and its Applicability to the Design of Micromachines", Proc. of IEEE Micro Electro Mech. Systems Workshop, 1992, 37-42.	
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	A77	Arai, T.; Larssonneur, R.; Jaya, Y.M.; "Calibration and Basic Motion of a Micro Hand Module", Proc. of IECON, 1993, 1660-1665.	
	A78	Peng, Zhi-Xin; Adachi, N.; "Compliant Motion Control of Kinematically Redundant Manipulators", IEEE Transactions on Robotics and Automation, 1993, 9, 831-837.	
	A79	Rong, Y.; Zhu, Y.; Luo, Z.; Liu, X.; "Design and Analysis of Flexure-Hinge Mechanism Used in Micro-Positioning Stages", ASME, 1994, 2, 979-985.	
	A80	Hashimoto, M.; Imamura, Y.; "Design and Characteristics of a Parallel Link Compliant Wrist", IEEE International Conference on Robotics and Automation, 1994, 2457-2462.	
	A81	Merlet, J.P.; "Parallel Manipulators: State of the Art and Perspectives", Advanced Robotics, 1994, 8, 589-596.	
	A82	Ananthasuresh, S.; Kikuchi, N.; "Strategies for Systematic Synthesis of Compliant MEMS", ASME, 1994, 2, 677-686.	
	A83	Arai, T.; Tanikawa, T.; Merlet, J.P.; Sendai, T.; "Development of a New Parallel Manipulator with Fixed Linear Actuator", Proc. of Japan/USA Symposium on Flexible Automation, 1996, 1, 145-149.	
	A84	Howell, L.L.; Midha, A.; "Loop-Closure Theory of the Analysis and Synthesis of Compliant Mechanisms", Journal of Mechanical Design, 1996, 118, 121-125.	
	A85	Haisma, J. et al.; "Mold-Assisted Nanolithography: A Process for Reliable Pattern Replication", Journal of Vacuum Science and Technology, 1996, 14, 4124-4128.	
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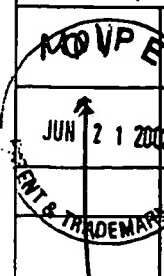
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Information Disclosure Statement--PTO 1449 (modified)

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	A87	Rong, L.; Guanghua, Z.; "Dynamics of Parallel Mechanism with Direct Compliance Control", 1997, 1753-1758.	
	A88	Mittal, Samir; Menq, Chia-Hsiang; "Precision Motion Control of Magnetic Suspension Actuator Using a Robust Nonlinear Compensation Scheme", IEEE/ASME Transactions on Mechatronics, 1997, 2, 268-280.	
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	A91	Lee, Chang-Woo; Kim, Seung-Woo; "Ultraprecision Stage for Alignment of Wafers in Advanced Microlithography", Precision Engineering, 1997, 21, 113-122.	
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	A94	Koseki, Y. et al.; "Design and Accuracy Evaluation of High-Speed and High Precision Parallel Mechanism", Proc. of IEEE, Intl. Conf. on Robotics & Automation, 1998, 1340-1345.	
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	A97	Wang, W.; Loh, R.; Gu, E.; "Passive Compliance Versus Active Compliance in Robot-Based Automated Assembly Systems", Industrial Robot, 1998, 25, 48-57.	
	A98	Scheer, H.C. et al.; "Problems of Nanoimprinting Technique for Nanometer Scale Pattern Definition", Journal of Vacuum Science and Technology, 1998, 16, 3917-3921.	
	A99	Xia, Y.; Whitesides, George; "Soft Lithography", Annu. Rev. Mater. Sci., 1998, 28, 153-184.	
	A100	Tajbakhsh, H. et al.; "Three-Degree-of-Freedom Optic Mount for Extreme Ultraviolet Lithography", ASPE, 1998, 18, 359-362.	
	A101	Lee, Dong Sung et al.; "Ultra Precision Positioning System for Servo Motor-Piezo Actuator Using Dual Servo Loop and Digital Filter Implementation", ASPE, 1998, 18, 287-290.	
	A102	Wu, Wei et al.; "Large Area High Density Quantized Magnetic Disks Fabricated Using Nanoimprint Lithography", 1998, Journal of Vacuum Science and Technology, 1998, 16, 3825-3829.	
	A103	Ohya, Y. et al.; "Development of 3-DOF Finger Module for Micro Manipulation", Proc. of IEEE, Intl. Conf. on Intelligent Robots and Systems, 1999, 894-899.	
	A104	Tanikawa, T. et al.; "Development of Small-Sized 3 DOF Finger Module in Micro Hand for Micro Manipulation", Proc. of IEEE, Intl. Conf. on Intelligent Robots and Systems, 1999, 876-881.	
WAV	A105	Colburn, M. et al.; "Step and Flash Imprint Lithography: New Approach to High-Resolution Patterning", Proc. of SPIE, 1999, 3676, 379-389.	

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<b>Form PTO-1449 (modified)</b> List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		ATTY. DKT. NO. 5119-08401  APPLICANT: Choi et al.  FILING DATE: August 21, 2001	SERIAL 00/034,248 GROUP: 3682 JUN 26 2002 <b>RECEIVED</b> <b>GROUP 3600</b>
	A106	Lucas Aerospace, Free-Flex Pivot Catalog. 1999	
	A107	Goldfarb, M.; Speich, J.E.; "A Well-Behaved Revolute Flexure Joint for Compliant Mechanism Design", Journal of Mech. Design, 1999, 121, 424-429.	
	A108	Geodetic Technology, G1000-PS Power Series Specifications, 1999, from <a href="http://www.hexapods.com">www.hexapods.com</a>	
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	A110	Physik Instruments, PI Online-Catalog, 1999, from <a href="http://www.physikinstrument.com">www.physikinstrument.com</a>	
	A111	Chou, Stephen; Zhuang, Lei; "Lithographically-induced Self Assembly of Periodic Micropillar Arrays", Journal of Vacuum Science and Technology, 1999, 17, 3197-3202.	
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	A114	Stix, Gary; "Getting More from Moore's", Scientific American, 2001, from <a href="http://www.scientificamerican.com">www.scientificamerican.com</a>	
	A115	Trilogy Systems, Linear Motors 310 Specification, 2001, from <a href="http://www.trilogysystems.com">www.trilogysystems.com</a>	
	A116	Choi, B.J. et al.; "Design of Orientation Stages for Step and Flash Imprint Lithography", Precision Engineering, 2001, 25, 192-199.	
	A117	PCT International Search Report for PCT/US 00/30041, dated 10/15/2001	
MSV	A118	PCT International Search Report for PCT/US 01/26049, dated 2/19/2002	

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Sheet

1

of

2

Application Number

09/934,248

**Filing Date**

08/21/2001

**First Named Inventor**

Choi et al.

## Group Art Unit

3682

**Examiner Name**

**Unassigned**

Attorney Docket Number

PA19-09V07

## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

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			Application Number	09/934,248	
			Filing Date	08/21/2001	
			First Named Inventor	Choi et al.	
			Group Art Unit	3682	
Examiner Name	Unassigned				
Attorney Docket Number	PA19-09V07				
Sheet	2	of	2		

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MDV	B18	LIN, "Multi-Layer Resist Systems", Introduction of Microlithography, American Chemical Society, 1983, pp. 287-350, IBM T.J. Watson Research Center, Yorktown Heights, New York 10598.	
MDV	B19	COWIE, "Polymers: Chemistry and Physics of Modern Materials", 1991, pp. 408-409, 2 <sup>nd</sup> Ed, Chapman and Hall, a division of Routledge, Chapman and Hall, Inc., 29 West 35 <sup>th</sup> Street, NY, NY 10001-2291.	
MDV	B20	CHOU et al., "Imprint of Sub-25 nm Vias and Trenches in Polymers", Applied Physics Letters, November 20, 1995, pp. 3114-3116, vol. 67(21).	
MDV	B21	CHOU et al., "Imprint Lithography with 25-Nanometer Resolution", Science, Apr. 5, 1996, pp. 85-87, vol. 272.	
MDV	B22	CHOU et al., "Imprint Lithography with Sub-10nm Feature Size and High Throughput", Microelectronic Engineering, 1997, pp. 237-240, vol. 35.	
MDV	B23	XIA et al., "Soft Lithography", Angew. Chem. Int. Ed., 1998, pp. 550-575, vol. 37.	

Examiner Signature	<i>M. Vung</i>	Date Considered	1/18/05
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

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<b>Application Number</b>	<b>09/934,248</b>
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<b>Filing Date</b>	08/21/2001
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<b>First Named Inventor</b>	<b>Choi et al.</b>
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Group Art Unit	1732
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Examiner Name	Vargot, Mathieu D.
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Attorney Docket Number	PA19-09V07
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## FOREIGN PATENT DOCUMENTS

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Sheet	3	of	3
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<b>Application Number</b>	09/934,248
<b>Filing Date</b>	08/21/2001
<b>First Named Inventor</b>	Choi et al.
<b>Group Art Unit</b>	1732
<b>Examiner Name</b>	Vargot, Mathieu D.
<b>Attorney Docket Number</b>	PA19-09V07

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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M. Vargot

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1/18/05

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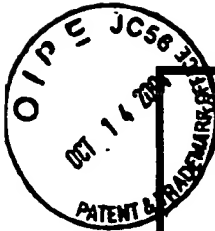
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 6

## Complete if Known

Application Number	09/934,248
Filing Date	08/21/2001
First Named Inventor	Choi et al.
Group Art Unit	1732
Examiner Name	Vargot, Mathieu D.
Attorney Docket Number	PA19-09V07

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
MDV	C1	4,070,116		Frosch et al.	01-24-1978	
	C2	4,600,309		Fay	07-15-1986	
	C3	4,848,911		Uchida et al.	07-18-1989	
	C4	5,074,667		Miyatake	12-24-1991	
	C5	5,148,036		Matsugu et al.	09-15-1992	
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	C8	5,179,863		Uchida et al.	01-19-1993	
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	C10	5,424,549		Feldman	06-13-1995	
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	C16	6,150,680		Eastman et al.	11-21-2000	
	C17	6,326,627	B1	Putvinski et al.	12-04-2001	
	C18	2002/0132482	A1	Chou	09-19-2002	
	C19	2002/0167117	A1	Chou	11-14-2002	
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	C33	5,439,766		Day et al.	08-08-1995	
	C34	5,431,777		Austin et al.	07-11-1995	
MDV						
Examiner Signature	M. Vargot				Date Considered	1/18/05

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

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of

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Application Number	09/934,248
Filing Date	08/21/2001
First Named Inventor	Choi et al.
Group Art Unit	1732
Examiner Name	Vargot, Mathieu D.
Attorney Docket Number	PA19-09V07

### U.S. PATENT DOCUMENTS

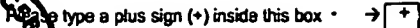
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
MDV	C35	5,422,295		Choi et al.	06-06-1995	
	C36	5,421,981		Leader et al.	06-06-1995	
	C37	5,417,802		Obeng	05-23-1995	
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	C67	6,703,190	B2	Elian et al.	03-09-2004	
MDV	C68	6,730,256	B1	Bloomstein et al.	05-04-2004	
Examiner Signature	M. Vargot				Date Considered	1/19/05

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Sheet

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**Complete if Known**

Application Number	09/934,248
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<b>Filing Date</b>	08/21/2001
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<b>First Named Inventor</b>	<b>Choi et al.</b>
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Group Art Unit	1732
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<b>Examiner Name</b>	<b>Vargot, Mathieu D.</b>
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Attorney Docket Number	PA19-09V07
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## FOREIGN PATENT DOCUMENTS

**Examiner  
Signature**

M. Varghese

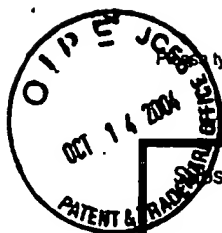
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			<b>Application Number</b>	09/934,248	
			<b>Filing Date</b>	08/21/2001	
			<b>First Named Inventor</b>	Choi et al.	
			<b>Group Art Unit</b>	1732	
			<b>Examiner Name</b>	Vargot, Mathieu D.	
<b>Sheet</b>	5	<b>of</b>	6	<b>Attorney Docket Number</b>	PA19-09V07

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
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MDV	C76	Abstract of Japanese Patent 63-138730		
MDV	C77	Abstract of Japanese Patent 55-88332		
MDV	C78	Abstract of Japanese Patent 57-7931		
MDV	C79	Abstract of Japanese Patent 02-92603.		
MDV	C80	Translation of Japanese Patent 02-92603.		
MDV	C81	Abstract of Japanese Patent 02-24848.		
MDV	C82	Translation of Japanese Patent 02-24848.		
MDV	C83	HEIDARI et al., "Nanoimprint Lithography at the 6 in. Wafer Scale," Journal of Vacuum Science Technology, Nov/Dec 2000, pp. 3557-3560, vol. B, no. 18(6)		
MDV	C84	NERAC.COM Retro Search, "Reduction of Dimension of Contact Holes", August 31, 2004		
MDV	C85	NERAC.COM Retro Search, "Trim Etching of Features Formed on an Organic Layer", September 2, 2004		
MDV	C86	NERAC.COM Retro Search, "Multi-Layer Resists", September 2, 2004		

<b>Examiner Signature</b>	M. Vargot	<b>Date Considered</b>	1/18/05
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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
		Application Number	09/934,248
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Filing Date	08/21/2001
		First Named Inventor	Choi et al.
		Group Art Unit	1732
		Examiner Name	Vargot, Mathieu D.
		Attorney Docket Number	PA19-09V07
Sheet	6	of	6

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MDV	C87	HU et al., "Flourescence Probe Techniques (FPT) for Measuring the Relative Efficiencies of Free-Radical Photoinitiators", s0024-9297(97)01390-9; "Macromolecules" 1998, vol. 31, no.13, pp. 4107-4113, 1998 American Chemical Society. Published on Web 05/29/1998	
MDV	C88	FEYNMAN, Richard P., "There's Plenty of Room at the Bottom—An Invitation to Enter a New Field of Physics," 12 pp [online]Retreived 9/23/04 from URL:http://www.zyvex.com/nanotech/feynman.html.	
MDV	C89	CIBA SPECIALTY CHEMICALS BUSINESS LINE COATINGS, "What is UV Curing?", 45 pp [online]Retreived 9/24/04 from URL:http://www.cibasc.com/image.asp?id=4040.	

Examiner Signature	M. Vargot	Date Considered	1/18/05
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